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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/699,805	11/04/2003	Masuyoshi Yamada	NITT-160	4443

38327 7590 05/20/2004

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EXAMINER	
HASHMI, ZIA R	

ART UNIT	PAPER NUMBER
2881	

DATE MAILED: 05/20/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/699,805	YAMADA ET AL.	
	Examin r	Art Unit	
	Zia R. Hashmi	2881	

-- The MAILING DATE of this communication appears on the cov r sheet with th correspond nce address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *04 November 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-8* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-8* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *11/4/2003*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office Action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-8 are rejected under U.S.C. 103(a) as being unpatentable over Nabeshima et al. (5,969,351), in view of Kato (Pub. No: US 2003/0122069 A1).

3. With respect to independent claims 1 and 6, Nabeshima et al. disclose a mass spectrometer (Abstract, lines 1-2 and Fig. 2), comprising: an atmospheric pressure ionization source (col. 2, lines 35-36, col. 3, lines 42-44) having a primary ionization part for generating primary ions by means of electric discharge of reagent gas (col. 1, lines 10-14,& 19-21 and col. 5, lines 32-34 and 36a in Fig. 10), and a secondary ionization part for generating an ion of a sample by a reaction of the primary ion (col. 7, lines 13-30 and electrode 8 and second ionization region 110, the first ionization region being 36a, both in Fig. 10), a mass spectrometric part for performing mass spectrometric analysis of the ions generated (col. 7, lines 25-35 and 20 in Fig. 10).

4. With respect to claims 1-8, Nabeshima et al. fail to disclose a mixing portion for mixing sample gas with a dilution gas, or means of controlling flow rate of dilution or sample gas. Kato, however, discloses a mixing portion for mixing sample to be introduced into ionization part with nitrogen as dilution gas (para 0008, lines 6-10, para 0012, lines 1-7, para 0036, lines 1-3, and 9 in Fig. 1); means of controlling flow rate of

dilution gas (para 0012, lines 1-7 and 24 in Fig. 1); and means for controlling a flow rate of the sample for flowing through the mixing portion (para 0006, lines 1-3 & Table I, para 0042 & Table 2), wherein mixed gas obtained by mixing the sample with the dilution gas is introduced into the ionization region (para 0021, lines 12-30 and 31 & 41 in Fig. 1).

It would have been obvious to one having ordinary skill in the art at the time of the invention was made to combine methods and apparatus of Nabeshima et al. and Kato, and add features like, introducing gas collected from gas outlet piping on cathode of a fuel cell as a source of sample introduced into the ionization region with dilution gas, and then into a mass spectrometer for analysis of the contents of the sample gas, because Nabeshima et al. teach (col. 2, lines 50-52) that the intensity of the detected ions depends on the molecular concentration of the sample in the atmosphere. Besides, source of the sample, in this case, is irrelevant for mass analysis, as any appropriate sample can be used, which need not be from a fuel cell.

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Bajic discloses (6,462,336) an ion source for mass spectrometry in which sample gas with entrained gas are collected through an entrance orifice into an interface chamber.

6. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status

information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact Electronic Business Center (EBC) at 866-217-9197 (toll-free).

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Zia Hashmi whose telephone number is (571) 272-2473. The examiner can normally be reached between 8.30 AM- 5 PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John R. Lee can be reached on (571) 272-2477.

Zia Hashmi

May 5, 2004.

JOHN R. LEE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800